



City of Annapolis

DEPARTMENT OF NEIGHBORHOOD & ENVIRONMENTAL PROGRAMS

145 GORMAN STREET, THIRD FLOOR, ANNAPOLIS, MARYLAND 21401

ANNAPOLIS (410) 260-2200 • FAX (410) 263-9158 • TDD - Use MD relay or 711 • www.annapolis.gov

April 24, 2015

Erika Wein
Drum, Loyka & Associates, LLC
Clock Tower Place, Suite 35
Annapolis, MD 21403

RE: Review of the March, 2015 Forest Conservation Plan (FCP), Griscom Square

Ms. Wein,

Below are comments from DNEP regarding the Forest Conservation Plan for Griscom Square. They are divided into two sections with the first addressing issues pertaining to the Forest Conservation Act and the second addressing the Stormwater Management Act compliance. Because Griscom Square was approved as a subdivision prior to the most recent amendments to the Stormwater Management Act, this review is consistent with the newer requirements. While many of our comments can be addressed as part of the grading permit submission, anything that alters the footprint and impacts the FCA worksheet – particularly the stormwater issues – will have to be reviewed as amendments to the FCP. If amendments are required for the FCP, please submit a revised worksheet and site plan. If not, please confirm that amendments will not affect the FCP as currently presented and we will approve the March, 2015 FCP submission.

1. Sheet 1:

Include under General Notes item 2:

Contact the City's Sediment and Erosion Control Inspector and the City's Environmentalist at 410-263-7946 for a pre-construction meeting. All sediment and erosion control and tree preservation measures will need to be inspected prior to starting any work on-site.

2. Sheet 2:

Include in the tree table the condition of all the trees that will be preserved and all specimen trees.
Include in the tree table which trees will be removed.

Show where trees 78, 79, 80 are located.

3. Sheet 3:

Show the limit of disturbance (LOD) clearly on the plan.

Show all trees 4" and greater within 15' of the LOD even if on adjacent properties.

Mark on the plan which trees will be removed and which trees will be preserved.

Preserve trees according to City Code sections 17.09.040/50/60 and the attached tree protection document. Show how tree 55 will be preserved.

All trees 24" and greater that will be removed will need to be mitigated according to City code section 17.09.070 (Outside Critical Areas column). The mitigation is in addition to the Forest Conservation Act planting requirement.

4. Sheet 4:

Show the LOD clearly on the plan.

The proposed Forest Conservation Easement will need to be outside the LOD.

Show all trees that will be preserved on the plan. Include all trees 4" and greater within 15' of the LOD even if on adjacent properties.

5. Sheet 5:

The sweet gum needs to be a non fruit bearing cultivar.

The tree planting area for the three trees shown next to the bio-retention area is too narrow. The three trees are proposed too close to the storm drain pipe and the one tree is too close to the retaining wall. The swamp white oak next to Bay Ridge Avenue is also too close to the storm drain pipe.

The willow oak and black gum shown at the intersection of Hopkins Street and Griscom Way will block the line of sight. Trees need to be planted at least 30' from an intersection (City code section 14.12.140).

All trees 24" and greater that will be removed will need to be mitigated according to City code section 17.09.070 (Outside Critical Areas column). The mitigation is in addition to the Forest Conservation Act planting requirement. Consider planting trees in the Forest Conservation Easement.

6. Sheet 6:

The root pruning detail needs to be changed: the chain link fence can be installed in the root prune trench.

Forest Conservation Measures: change forester to the City's Environmentalist.

Stormwater Management Computations:

1. On page 14, the permeable pavement and disconnection of non-rooftop runoff indicates that the soils are HSG B. The previous page of the report shows HSG C soils.
2. On page 15, the Pe provided for the bioretention area is shown to be 1.63 inches. Using the factors displayed, Pe provided would equal 2.04 inches.
3. On page 15, the structural practice of Bioretention Area (F-6) is being designed as an ESD practice. This is incorrect and should be designed as a structural practice.
4. On page 15, the enhanced filter shown for DA-A would typically be included in the design of the bioretention area that it is under.
5. On page 16, the Pe and ESDv Summary shows an ESDv provided that different from the total ESDv provided. How was this computed?
6. On page 22, the Disconnection of Rooftop Runoff Table shows a Weighted PE equal to 0.70 inches. How was this determined?
7. On page 22, determining each disconnection's ESDv provided yielded a ESDv of 238.5 CF.
8. On page 22, the disconnection of non-rooftop runoff for the two offsite parking areas does not meet ESD requirements for a Pe of 1.0 inch.
9. On page 22, the permeable pavement shows the area of driveways to be 5,752 SF and the area of treatment to be 4,478 SF. Run-on to permeable pavement is strongly discouraged.
10. General note for anywhere ponding storage volume is calculated shows ponding volume to equal: $(A+B/2)*\text{Ponding Depth}$, where A and B are the water surface areas for two different elevations. It should really be: $(A+B)/2*\text{Ponding Depth}$, which is how the value was determined.
11. On page 26, the Rv is calculated twice on this page using two different numbers for %I. The %I should be consistent.
12. On page 32, the Rv is calculated twice on this page using two different numbers for %I. The %I should be consistent.
13. On page 33, the Rv is calculated twice on this page using two different numbers for %I. The %I should be consistent.
14. On page 34, the Rv is calculated twice on this page using two different numbers for %I. The %I should be consistent.
15. On page 35, the structural practice of Bioretention Area (F-6) is being designed as an ESD practice. This is incorrect and should be designed as a structural practice.
16. On page 35, the enhanced filter shown for DA-2p would typically be included in the design of the bioretention area that it is under.
17. On page 42, the Rv is calculated twice on this page using two different numbers for %I. The %I should be consistent.
18. On page 57, the permeable pavement for DA-5a has the ESDv shown to be 48 CF. When using the factors presented, ESDv should equal 47 CF.
19. On page 57, the disconnection of non-rooftop runoff for the two walk and driveway areas does not meet ESD requirements for a Pe of 1.0 inch.
20. On page 59, the Summary sheet will need to be updated.
21. On page 65, the disconnection of non-rooftop runoff for the two walk and porch areas does not meet ESD requirements for a Pe of 1.0 inch.
22. On page 65, the Disconnection of Rooftop Runoff Table shows a weighted PE equal to 0.30 inches. How was this determined?
23. On page 73, the permeable pavement for DA-7b has the ESDv shown to be 75 CF. When using the factors presented, ESDv should equal 74 CF.
24. No full size drainage area map was provided in SWM computations.

Plans:

1. No soil borings were done in the area on the western part of the project site. This area includes drywells, rain gardens, micro-bioretenention areas and permeable pavement as ESD practices used to meet SWM.
2. The soil boring report included with the computations indicates that in the area of boring B-2 that the infiltration potential is poor and unsuitable. The plans show permeable pavement as an ESD practice on lot 4 near boring B-2. This practice should not be done in an area where infiltration rates are less than 0.2 inches/hour.
3. The soil boring report for B-3 indicated unsuitable, poor and slow/poor for the infiltration potential for the first 7 feet of the boring. This area includes the use of permeable pavement. The infiltration rate is shown to be 1.8 to 4.3 inches/hour, but that test is being completed at a depth of 8.5 feet. The permeable pavement would be much closer to the surface and not obtain the infiltration rate shown with the soils in the boring.
4. The enhanced filters being shown for ESDv might need to be reconsidered based on the soil borings.
5. The proposed retaining wall and sidewalk shown along Bay Ridge Avenue will need Public Works Approval. The sidewalk alignment may need to be adjusted. The retaining wall will need to be off of the public right of way.

If you have any questions, please contact me.

Sincerely,



Frank Biba, AICP, LEED AP
Chief, Environmental Programs
Dept. of Neighborhood and Environmental Programs
410 263-7946
fjb@annapolis.gov

cc: Maria Broadbent, Director DNEP
Pete Gutwald, Director P&Z